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CENTRAL FAX CENTER

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Application No. 10/566,907

## Proposed Amendments to Independent Claims 1 and 6

1. A process to cool hot gas from a partial oxidation reactor that is fluidly connected at its lower end to a horizontal duct, which horizontal duct is fluidly connected to a tube having a main tubular part in a vessel and an upstream tubular part which is positioned in said horizontal duct and is arranged horizontally therein, said upstream tubular part being sealingly connected to a tube sheet that is also positioned in said horizontal duct and which is arranged vertically therein, by passing the hot gas through said tube, wherein (i) the exterior of said main tubular part is cooled by an evaporating liquid cooling medium flowing freely inside said vessel and around said tube, (ii) the upstream tubular part and ~~the front of~~ said tube sheet is are cooled by passing a mixture of fresh liquid cooling medium and a defined part of the liquid cooling medium of activity (i) along the exterior of the upstream tubular part and ~~the front~~ a side of said tube sheet, and (iii) wherein the mixture of fresh liquid cooling medium and the defined part of the liquid cooling medium after being used to cool the upstream tubular part is used in activity (i) as cooling medium.

6. An apparatus for cooling hot gas from a partial oxidation reactor comprising:  
(i) a vessel fluidly connected to said partial oxidation reactor by means of a horizontal duct, said vessel and horizontal duct being provided with a cooling medium compartment, an inlet to supply fresh cooling medium and a outlet for discharge of used cooling medium, said vessel and horizontal duct further provided with an inlet for hot gas and an outlet for cooled gas, at least one heat exchange tube fluidly connecting the inlet for hot gas and the outlet for cooled gas positioned in the cooling medium compartment, wherein the upstream end of said heat exchange tube is positioned in said horizontal duct and is arranged horizontally therein, said upstream tubular part being sealingly attached to a tube sheet that is also positioned in said horizontal duct and is arranged vertically therein,  
(ii) a means for extracting a volume of the cooling medium from the cooling medium compartment, and wherein

(iii) the upstream end of said heat exchange tube in said horizontal duct is provided with a cooling means comprising means to supply a mixture of the extracted liquid cooling medium and part or all of the fresh liquid cooling medium along the exterior of the upstream end of said heat exchange tube and ~~the front~~ a side of said tube sheet in said horizontal duct.